

## ABSTRACT OF THE DISCLOSURE

A protective film agent (M) is applied to an outer surface of a die mold (9), or applied to an outer surface of the die mold (9) except for a cavity (10) resides. The protective film agent (M) has a liquid mixture prepared by urethane methyl-ethyl ketone and ethyl acetate. A curability enhancement is prepared by an isocyanate-based compound and ethyl acetate. A protective film agent (M) tightly covers the outer surface of the die mold (9) as a protective layer (11), and protects it against the rust, soil and damage. The protective layer (11) has a heat-resistant temperature (around 100°C ), and withstands against the operating temperature of 70-80°C , to which the protective layer (11) is subjected at the time of implementing the die forging procedure. A flake-resistance and crack-resistance are improved against an inadvertent impact, thereby effectively protecting the protective layer (11) against cracks and nicks supposed to occur when accidentally bringing the die mold (9) to collide with a stationary block.